AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A photomask blank comprising a substrate and a multilayer film thereon including at least four layers of different compositions, wherein

said multilayer film is a phase shift film, and

the interface between the layers is moderately graded in composition.

2. (Original) The photomask blank of claim 1 wherein said multilayer film includes layers composed mainly of compounds of metal silicide with oxygen and/or nitrogen.

3. (Original) The photomask blank of claim 1 wherein said multilayer film includes at least one layer composed mainly of molybdenum silicide oxynitride.

4. (Previously Presented) The photomask blank of claim 1 wherein said blank further comprising a chromium base light-shielding film or a chromium base antireflection film or a laminate film having stacked at least one chromium base light-shielding film and at least one chromium base antireflection film, formed on said multilayer film.

5. (Original) A method for manufacturing the photomask blank of claim 1, comprising

sputter-depositing layers on the substrate using a sputtering deposition system equipped with a plurality of targets of different compositions, across which electric powers are applied for sputtering, and

gradually changing a combination of sputtering powers across the targets in proximity to the interface between layers, thereby depositing a plurality of layers of different compositions.

6. (Original) The method of claim 5 wherein the plurality of targets comprise a metal silicide target and a silicon target.

7. (Original) The method of claim 5 wherein the plurality of targets comprise a metal target and a silicon target.

8. (Original) The method of claim 5 wherein the step of gradually changing a combination of sputtering powers across the targets in proximity to the interface between layers continues for a power grading time period which is at least 10% of a time period required to complete deposition of each layer.

9. (Original) A photomask fabricated by patterning the multilayer film of the photomask blank of claim 1.

10. (Original) A phase shift mask blank comprising a transparent substrate and a phase shift film of at least two layers thereon,

said phase shift film having a composition based on a zirconium silicide compound on a surface side and a composition based on a molybdenum silicide compound on a substrate side,

said phase shift film including a first layer, a second adjacent layer of a different composition, and a third layer disposed between the first and second layers and having a composition moderately graded from the composition of the first layer to the composition of the second layer.

11. (Original) The phase shift mask blank of claim 10 wherein an intermediate layer is disposed between a surface layer of a composition based on a zirconium silicide compound and a substrate-adjacent layer of a composition based on a molybdenum silicide compound, said intermediate layer having a composition moderately graded from the composition of the surface layer to the composition of the substrate-adjacent layer.

12. (Original) The phase shift mask blank of claim 10 wherein a surface layer of a composition based on a zirconium silicide compound is a coating composed mainly of a compound of zirconium silicide with oxygen and/or nitrogen and a substrate-adjacent layer of a composition based on a molybdenum silicide compound is a coating composed mainly of a compound of molybdenum silicide with oxygen and/or nitrogen.

13. (Original) The phase shift mask blank of claim 10, further comprising a chromium base light-shielding film or a chromium base antireflection film or a laminate film having stacked at least one chromium base light-shielding film and at least one chromium base antireflection film, formed on said phase shift film.

14. (Original) A method for manufacturing the phase shift mask blank of claim 10, comprising

sputter-depositing layers on the substrate by using a sputtering deposition system comprising a molybdenum silicide target, a zirconium silicide target and optionally a silicon target in a chamber, feeding a sputtering gas containing at least oxygen and/or nitrogen, and applying electric powers across the targets for sputtering, and

changing a combination of sputtering powers across the targets, thereby forming the phase shift film having a graded composition.

15. (Original) A phase shift mask fabricated by patterning the phase shift film of the phase shift mask blank of claim 10.

16-27. (Cancelled)

28. (Previously Presented) The photomask blank of claim 1 wherein

said interface has a continuous transition or a stepwise transition having a series of at least 5 steps from the composition of one layer to the composition of the other layer.

29. **(Currently Amended)** The photomask blank of claim 1 wherein

said multilayer film comprises alternate layers; each of the alternate layers is different from an adjacent alternate layer; and any two adjacent alternate layers comprise at least one metal and silicon, respectively.

30. (**Currently Amended**) A photomask blank comprising a substrate and a multilayer film thereon including at least four layers of different compositions, wherein

said multilayer film comprises alternate layers; each of the alternate layers is different from an adjacent alternate layer; any two adjacent alternate layers comprise at least metal and silicon, respectively; and the interface between the layers is moderately graded in composition.

31. (Previously Presented) The photomask blank of claim 30 wherein

said interface has a continuous transition or a stepwise transition having a series of at least 5 steps from the composition of one layer to the composition of the other layer.

32. (Previously Presented) The phase shift mask blank of claim 10 wherein

said composition of the third layer has a continuous transition or a stepwise transition having a series of at least 5 steps from the composition of the first layer to the composition of the second layer.

33. (Previously Presented) The phase shift mask blank of claim 11 wherein

said composition of the intermediate layer has a continuous transition or a stepwise transition having a series of at least 5 steps from the composition of the surface layer to the composition of the substrate-adjacent layer.